

Global Style

Manager

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Key Global
Equity
Investment
Themes



Practical Review,
Interpretation and Outlook

Global Style Manager

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For further information please contact:

Style Research Ltd.
10-12 Perrin's Court
London NW3 1QS

Style Research Inc.
633 Tremont Street
Boston MA 02118

Tel: +44 (0)20 7431 6633
Fax: +44 (0)20 7431 6037

Tel: +1 617 424 8080
Cell: +1 617 669 0814

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The Global Style Manager reviews global equity market return characteristics according to the following basic criteria:

VALUE: A set of measures intended to assess the inherent worth of equity shares. Considerable research indicates that "Value stocks" tend to outperform over the longer term. However, there appear also to be long, regular, periods of sustained underperformance of Value securities. Typically, Value is assessed using Book to Price (book value per share, divided by share price), or using Dividend Yield, but there are other related criteria which offer useful additional information within many global markets.

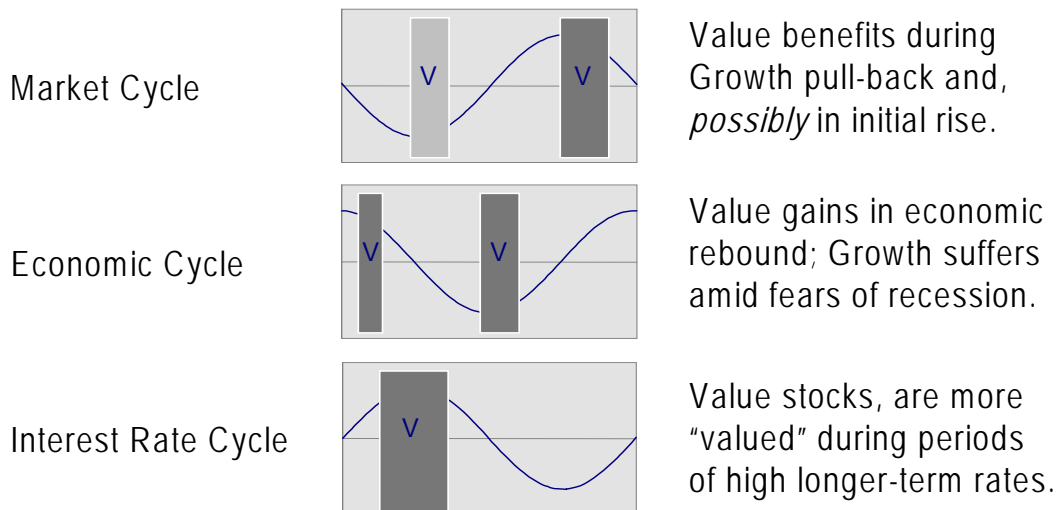
GROWTH: Growth stocks are often considered as simply those securities that are rated low on the standard Value scale. They have too high a price relative to their book value and pay out too meagre a dividend to be considered as Value stocks. These securities must, so it is said, have higher growth prospects than typical Value stocks, in order to justify their higher prices. This definition is rather narrow, however; there are a number of other criteria that offer further profitable insights into the nature of corporate growth and equity growth potential.

SIZE / RISK: Large company securities perform differently from small company securities; in fact, most research indicates that small company shares outperform large company shares over the medium term, compensating investors for their additional risk. Nonetheless, large company stocks frequently outperform over long and sustained periods, when equity markets are not adequately rewarding risk taking. There is more to the "Size Effect" than market capitalization alone.

RECORD: Even the "Weak Form" of the "Efficient Market Hypothesis" states that past share price performance offers no assistance in predicting future price performance; but still many chartists do manage to make convincing gains. The Global Style Manager attempts to obtain an insight into the world of the "technical analyst" by reviewing the history of success of a simple share price relative performance theme.

Each of these Themes or Styles is reviewed in simple terms and in Sector Adjusted terms (with each security criterion calculated relative to the average across the industrial sector within which the stock is listed). A full "Notes and Definitions" follows as an appendix to this review.

Forecasting the Major Styles - Some "Stylized" Facts



While each cycle routinely slips, slides, and stretches against the others, the positions shown make sound economic sense. The market cycle is a popular leading indicator of the economic cycle and, owing to "overheating" and economic "bottlenecks" influencing inflation expectations and concerns over "crowding out", the economic cycle generally leads the interest rate cycle.

Periods that are potentially favourable to Value stocks are indicated on each cycle.

- Market Cycle:** Value stocks look better as over-promoted Growth stocks weaken at market peaks.
- Value also used to do well during initial bull phases (institutions bought Value). Now the institutions are different (Global Mutual Funds, Unit Trusts, SICAVs, etc, Defined Contribution Funds, Hedge Funds) and the natural preference for Value is being replaced by Name Awareness, Brand, and Liquidity - mostly associated with Growth.
- Economic Cycle:** Value stocks generally gain from a surge of economic activity and a sharp upward revision of sentiment. Being most adversely affected by the gloom, they benefit most from the upturn. As profit expectations turn sharply and broadly positive at the bottom of the cycle profitability and Growth become a less scarce resource.
- At sharp economic downturns, where the bottom of the recession is not yet in view, Growth characteristics risk painful disappointment.
- Interest Rate Cycle:** Value stocks tend to benefit from a steeper yield curve and greater uncertainty surrounding future growth prospects. These factors increase the discount rate used in discounting future earnings and dividends and so discourage investment in longer duration Growth companies.

RELEVANCE CRITERIA FOR STYLES

Style Conditions

<u>CONDITION</u>	<u>RATIONALE</u>	<u>IMPORTANCE</u>
Identity	The performance of stocks within each Style must cluster in relatively distinct groups.	+++++
Consistency	Securities' membership in Style categories should be relatively stable.	+++
Cohesion	Styles should be detectable from a number of perspectives; and the return patterns from each perspective should be similar.	++++
Attribution	The performance of individual securities, and diversified portfolios should be describable in terms of their Style exposures.	+++++
Regularity	The relative return patterns of Style categories should be regular and non-random.	++++
Universality	All stocks should be classifiable according to the selected Style criteria.	+++
Symmetry	The key Value and Growth Style factors should display roughly symmetrical performance.	+++
Sector Independence	Styles should be more than thinly disguised industrial sector performance patterns.	++++

INTERPRETING THE CHARTS

Style Factor Criteria

A measure of the clarity of the **Identity** of the factor as an investment Style. It reports the probability that the distinct performance of the factor portfolio can not be explained simply by chance.

A measure of the significance of the factor in explaining the performance of individual securities within a market. **Attribution** indicates which factors are most important to get right.

The cumulative market-relative total returns from investing in a portfolio of the highest scoring securities, ranked by the factor, weighted by market size, and rebalanced every 6 months.

Sector Adjusted; for **Sector Independence**, the analysis reviews all security factor scores relative to the relevant industrial sector average.

The annualized 12 month and 10 year relative returns of the factor portfolio, measured relative to the return of the total market portfolio.

A measure of the degree to which the cumulative relative returns are regularly mean averting (above 0.25) or mean reverting (below -0.25) over 3, 6 or 12 months. Series with large positive or negative **Regularity** display non-erratic behaviour and consequently offer the opportunity to identify and forecast return trends and cycles, using analytical techniques.

Identifies the number of securities in the factor portfolio, and the number of securities for which there is current data available for this particular factor.

Average annual turnover (**Consistency**) of the factor portfolio, over 3 years.

The volatility of the investment performance of the factor portfolio, as:

- the annualized standard deviation of 5 (2) years of monthly total returns; and,
- the annualized tracking error of 5 (2) years of monthly returns vs. the market.

The volatility of the investment performance of the total market portfolio and the individual sector portfolio, measured as the annualized standard deviation of 5 (2) years of monthly total returns.

Market and Sector Returns

Cumulative total market return calculated with gross dividends reinvested.

Cumulative market-relative total return of the specified industrial sector.

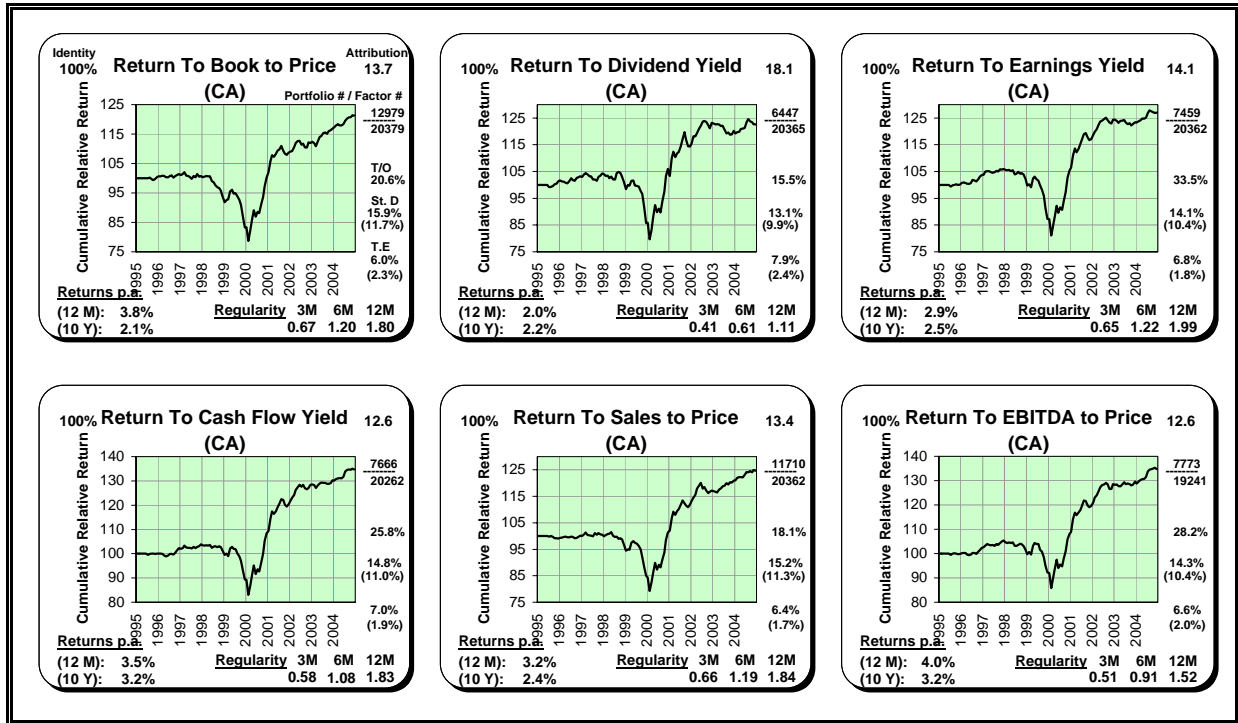
Percentage of the total market represented by the sector.

Number of stocks currently identified within the specified industrial sector.

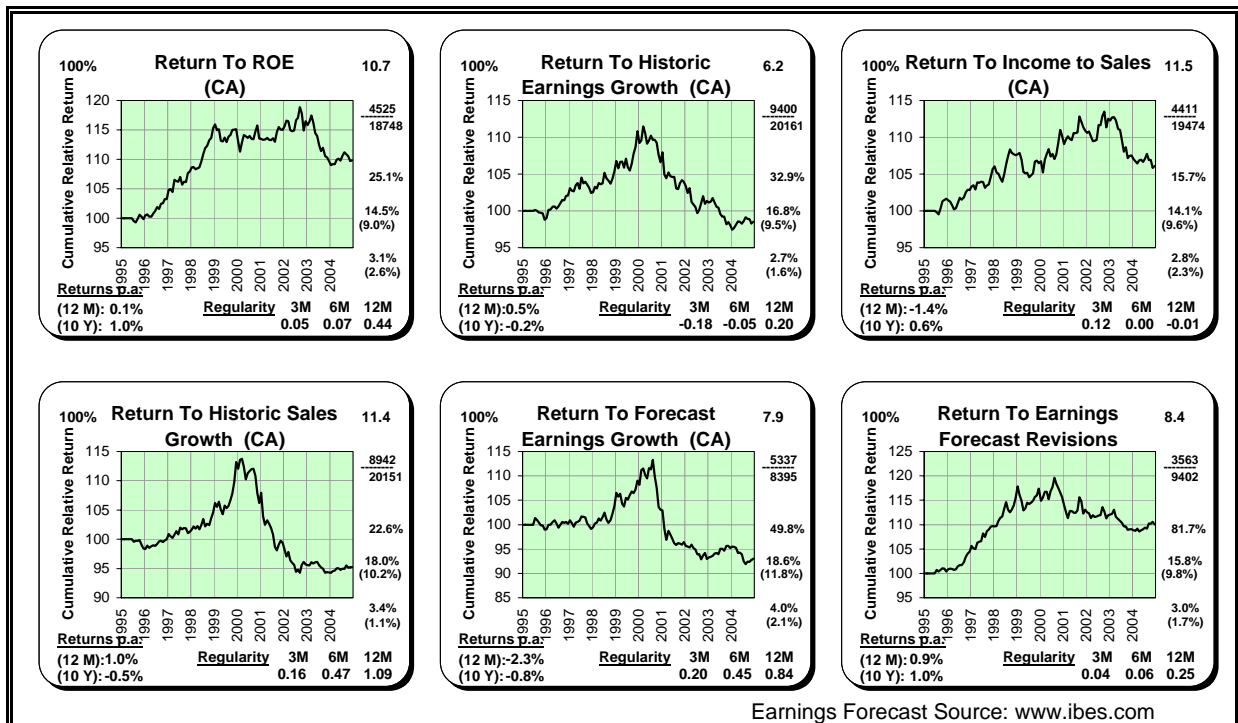
Annualized tracking error of 5 (2) years of monthly returns vs. the total market.

The volatility of the investment performance of the total market portfolio and the individual sector portfolio, measured as the annualized standard deviation of 5 (2) years of monthly total returns.

Value Criteria



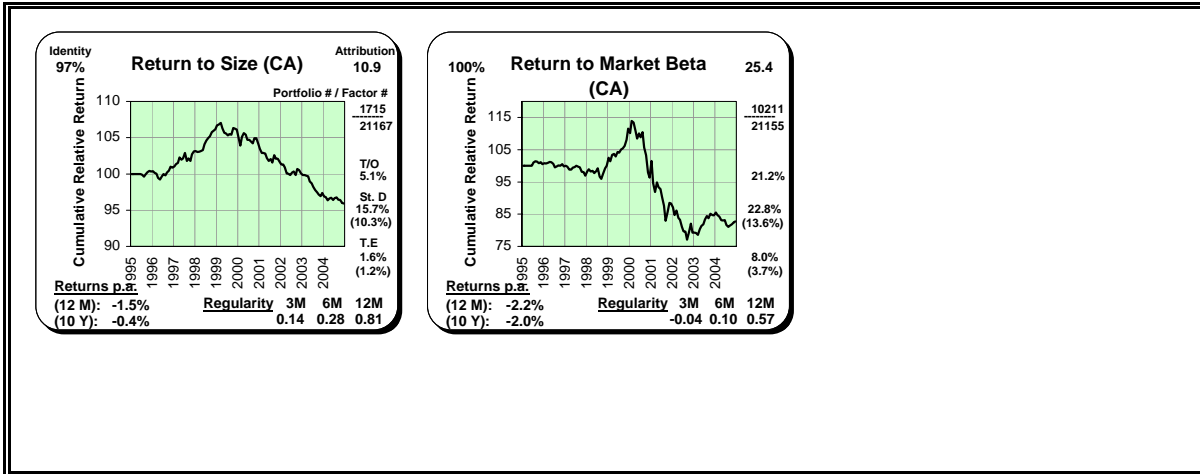
Growth Criteria



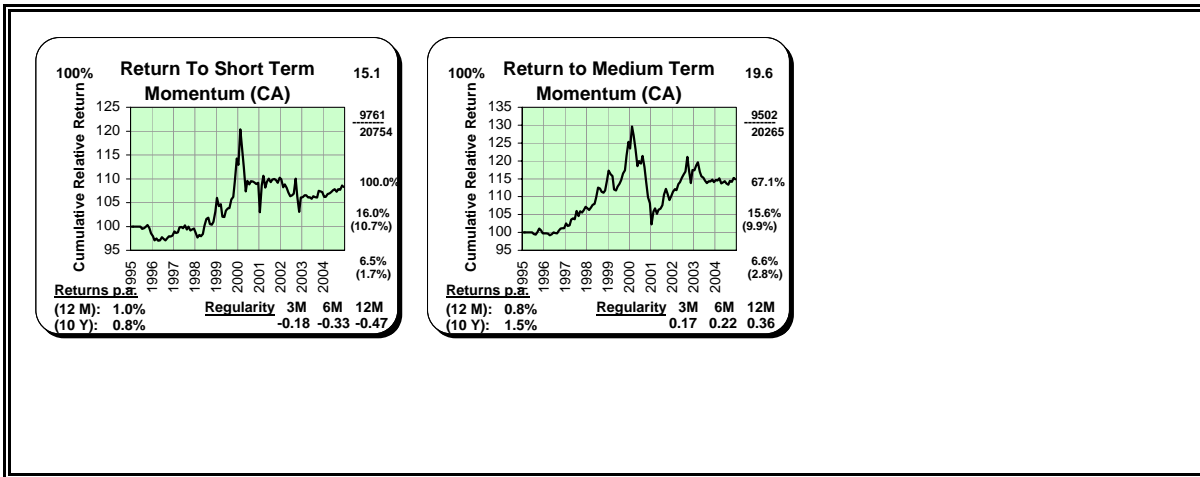
Earnings Forecast Source: www.ibes.com

Classification: FTSE

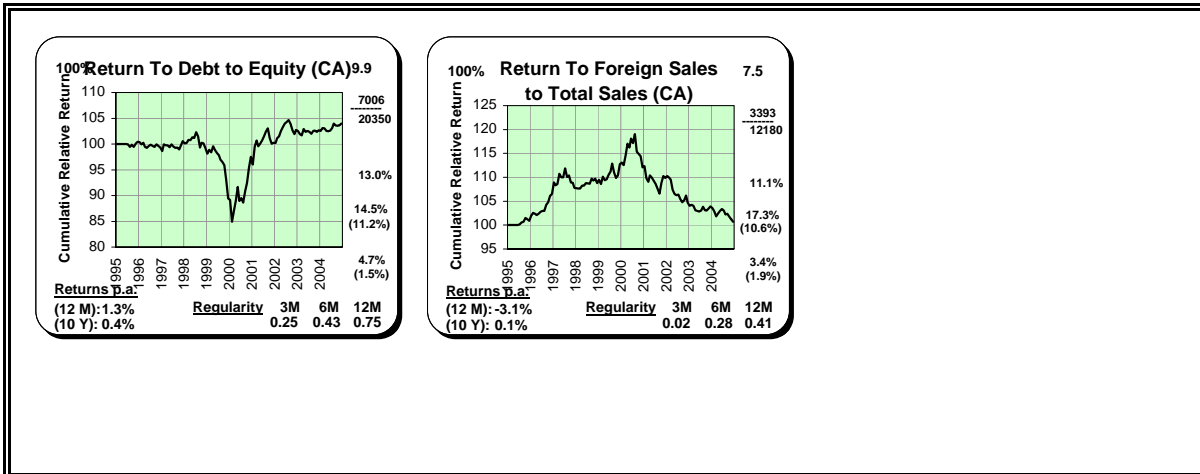
Size / Risk Criteria



Relative Performance Criteria

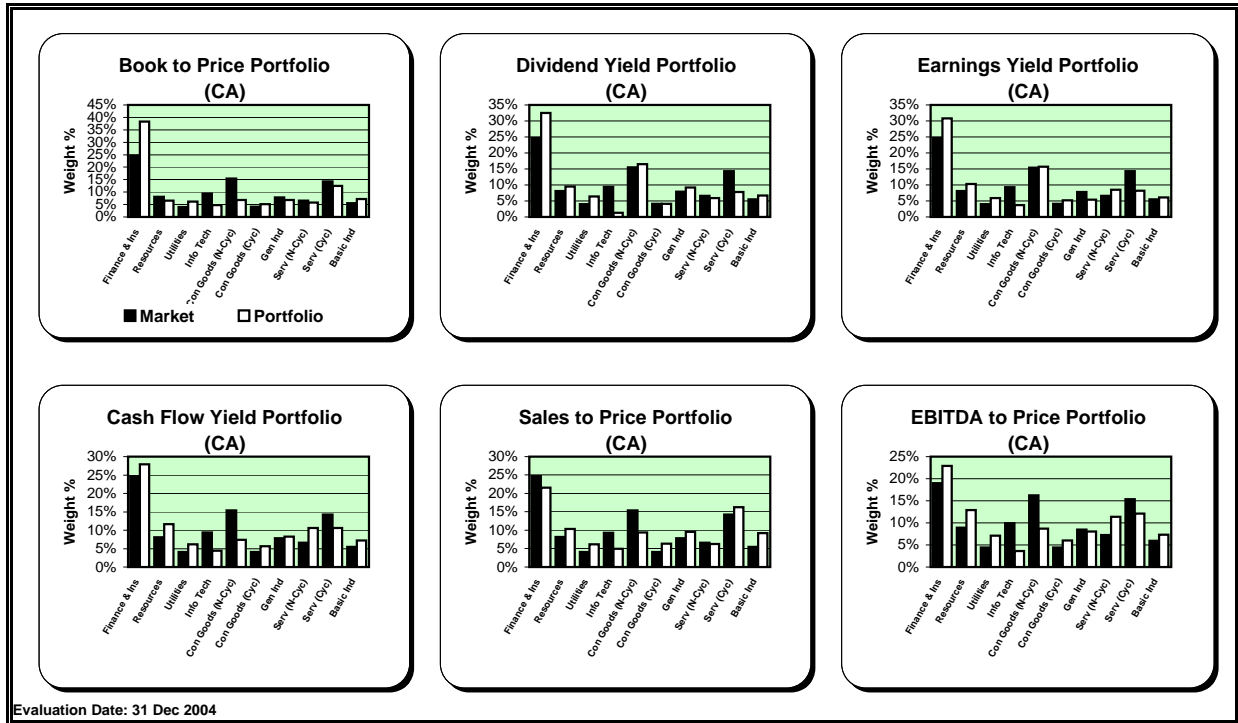


Other Criteria



Classification: FTSE

Value Criteria

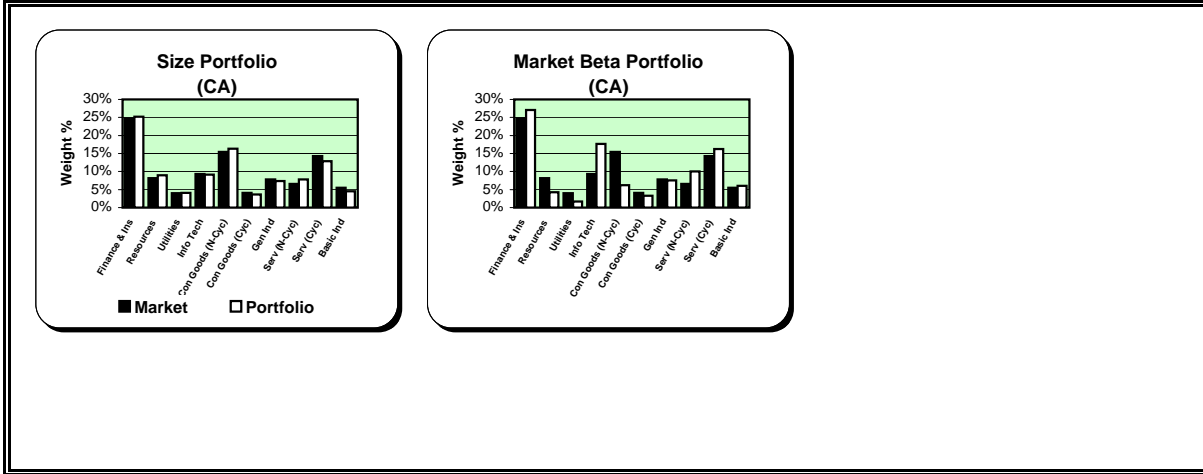


Growth Criteria

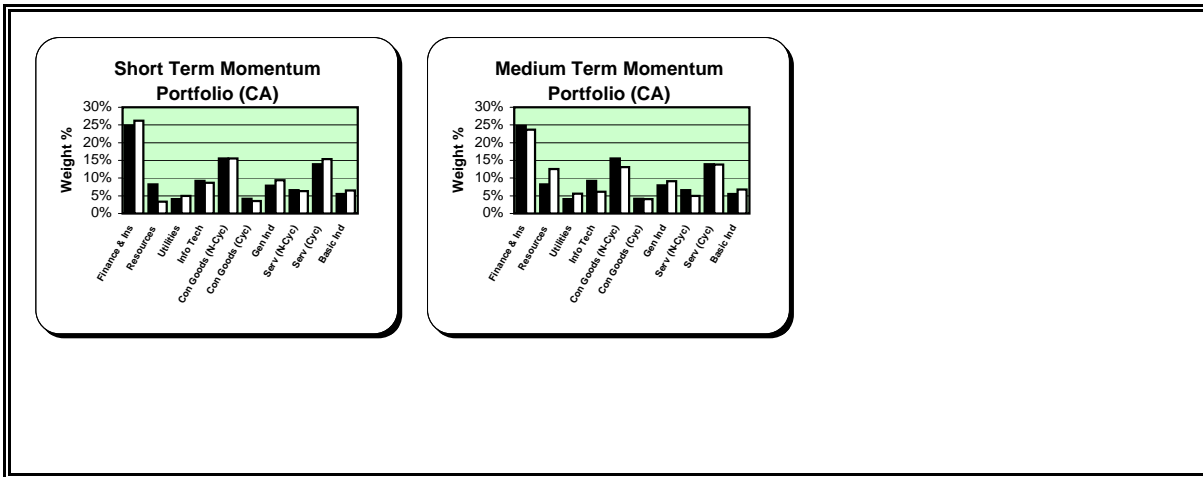


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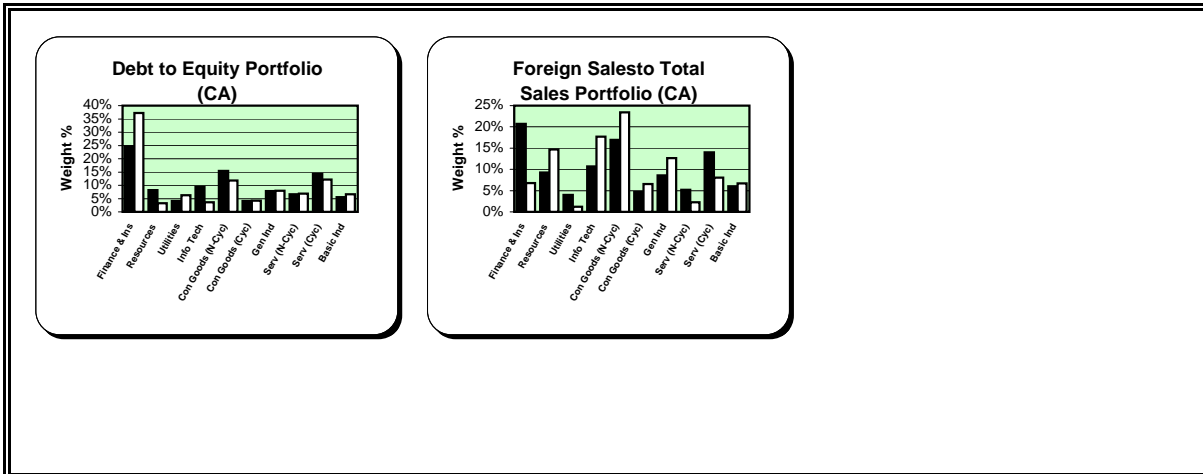
Size / Risk Criteria



Relative Performance Criteria

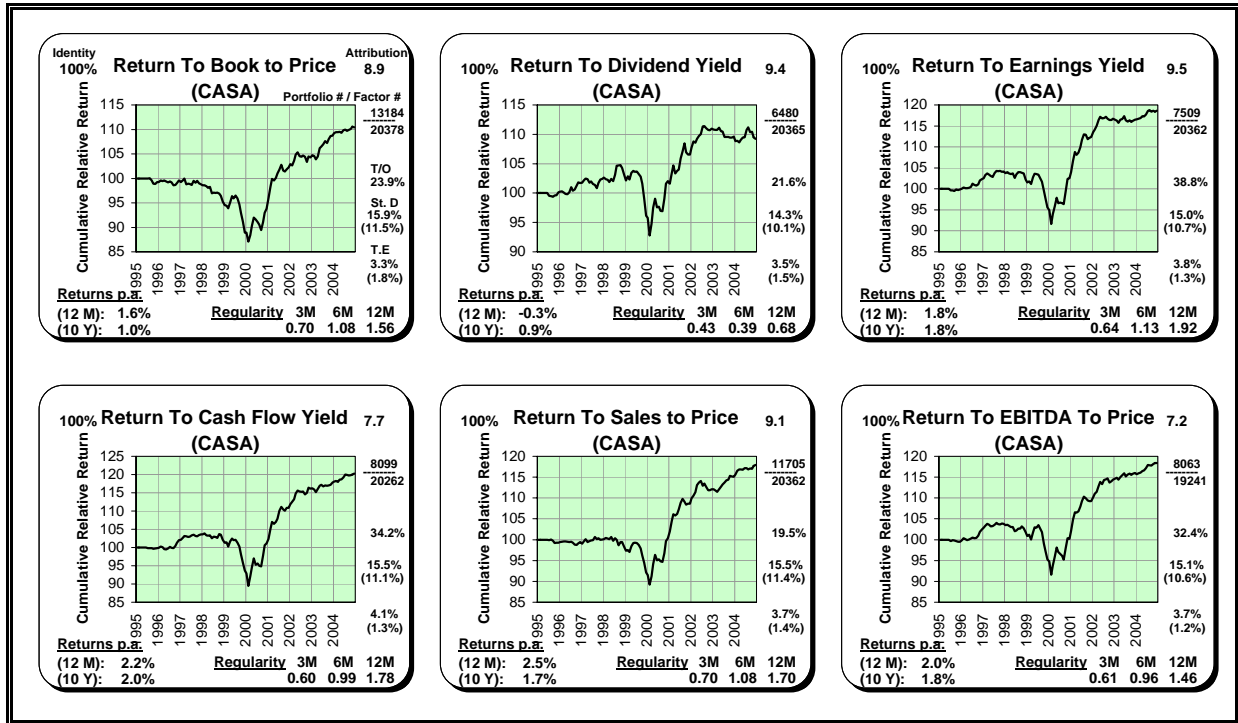


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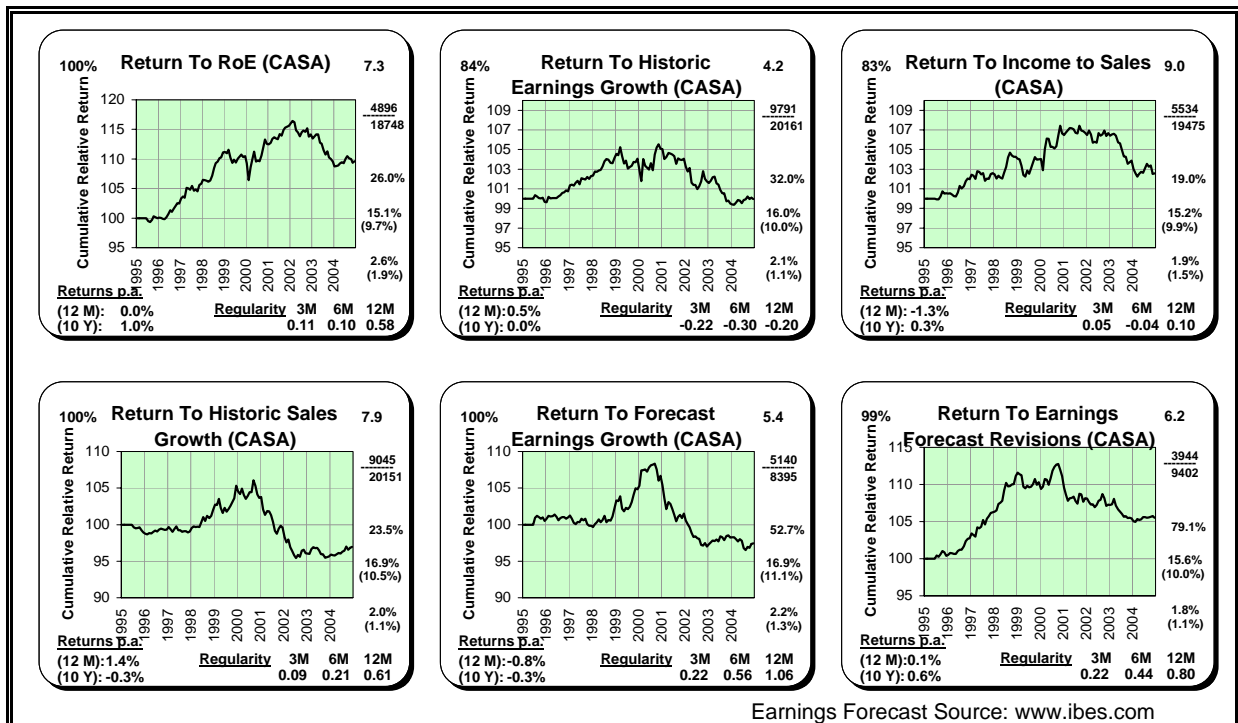


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Value Criteria



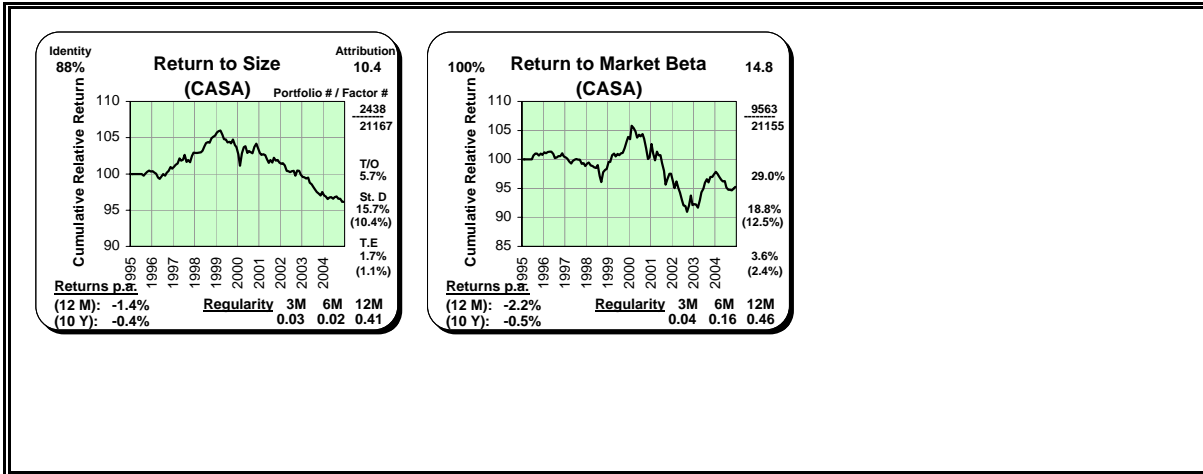
Growth Criteria



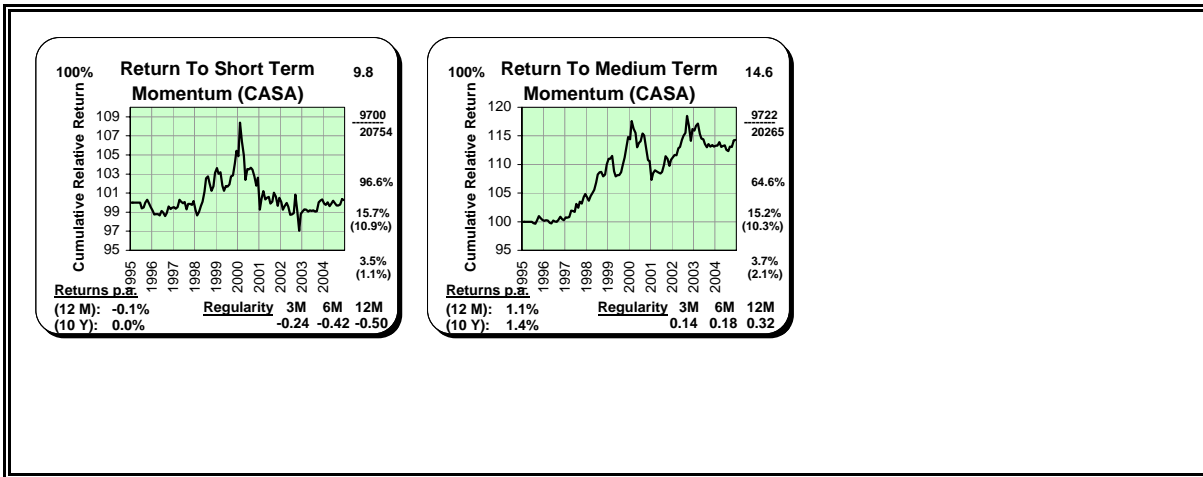
Earnings Forecast Source: www.ibes.com

Classification: FTSE

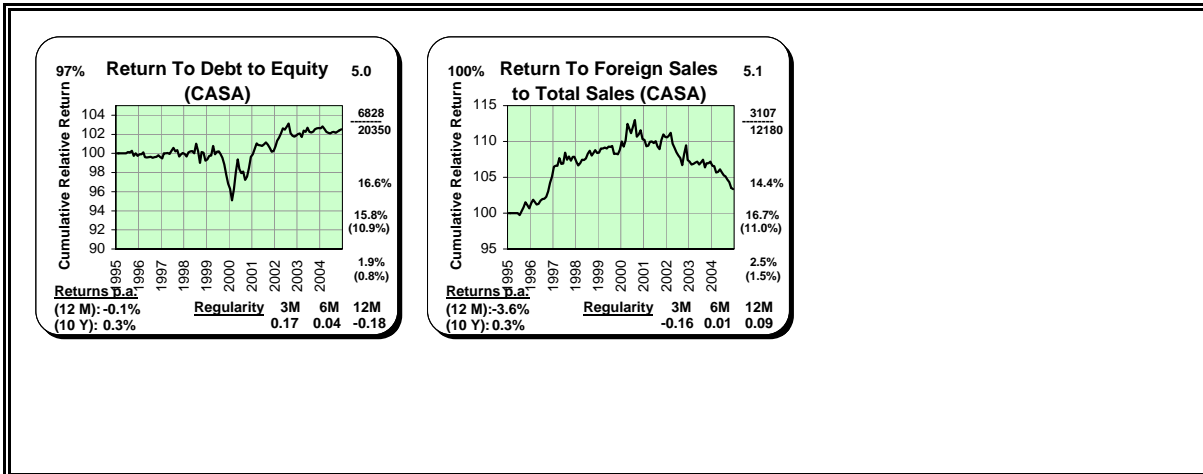
Size / Risk Criteria



Relative Performance Criteria



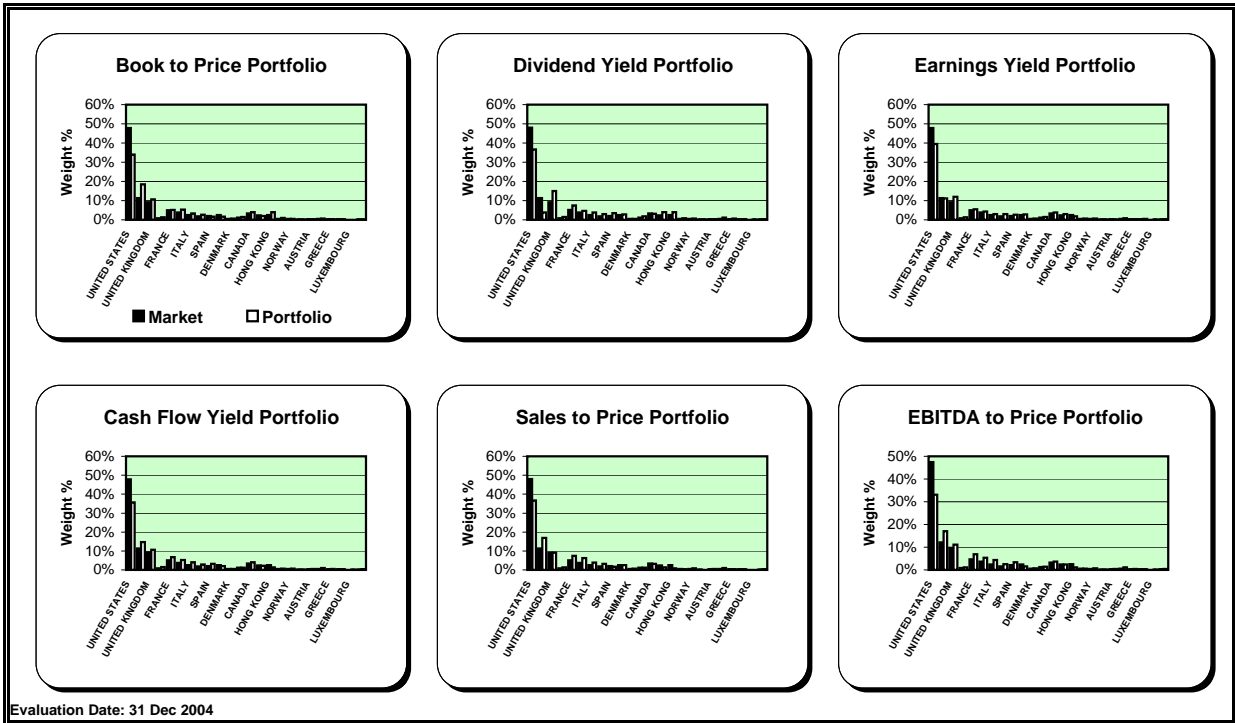
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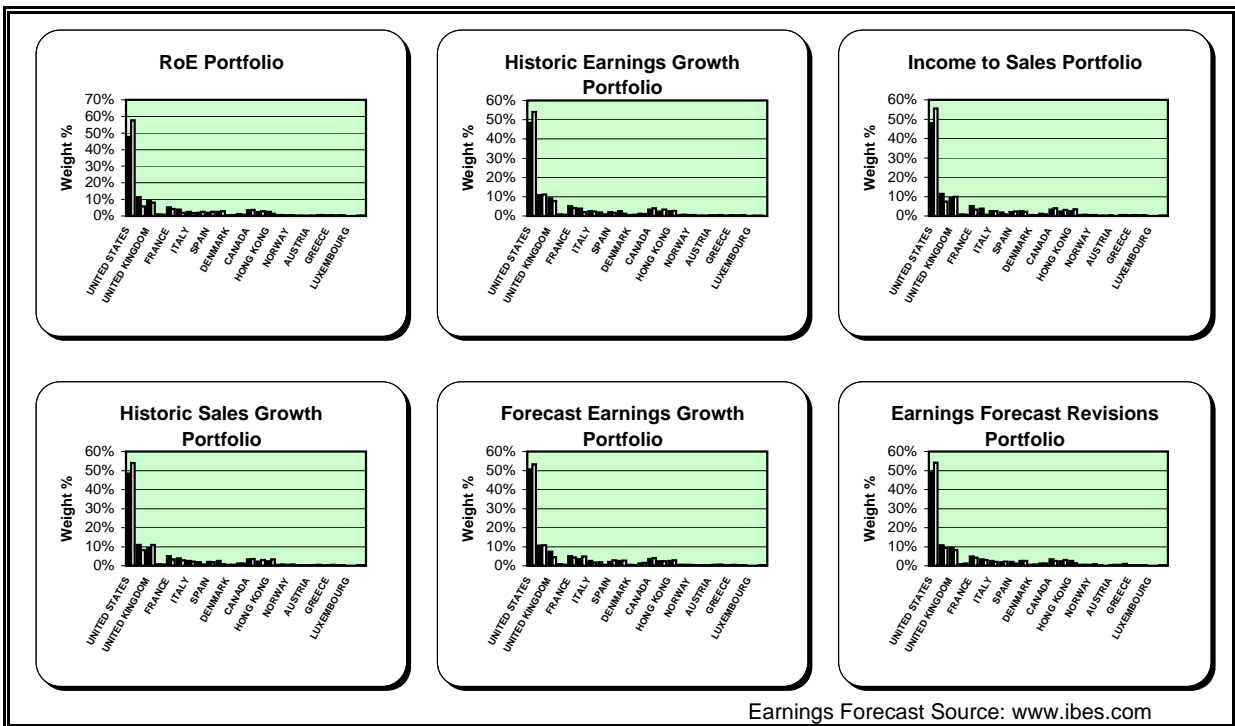
Classification: FTSE

Developed

Value Criteria



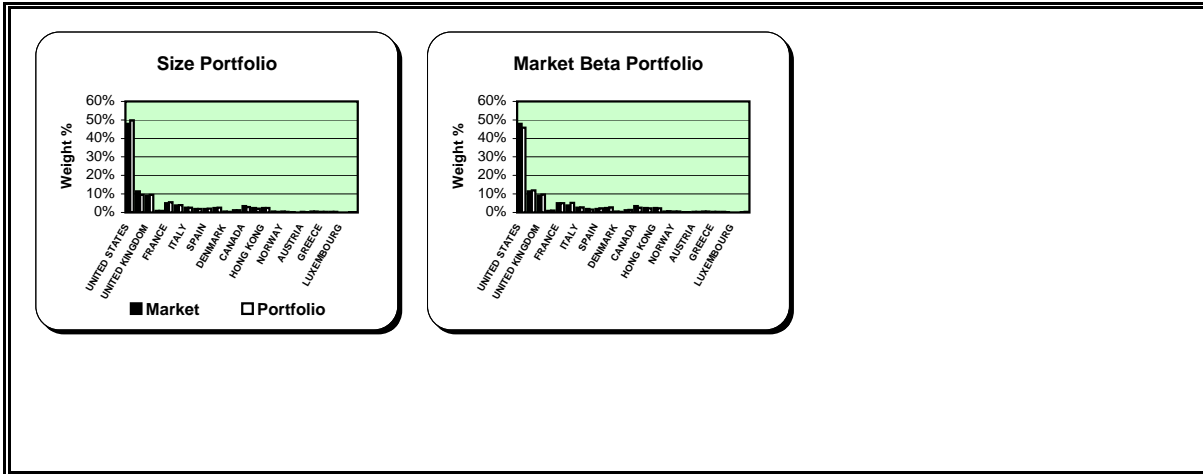
Growth Criteria



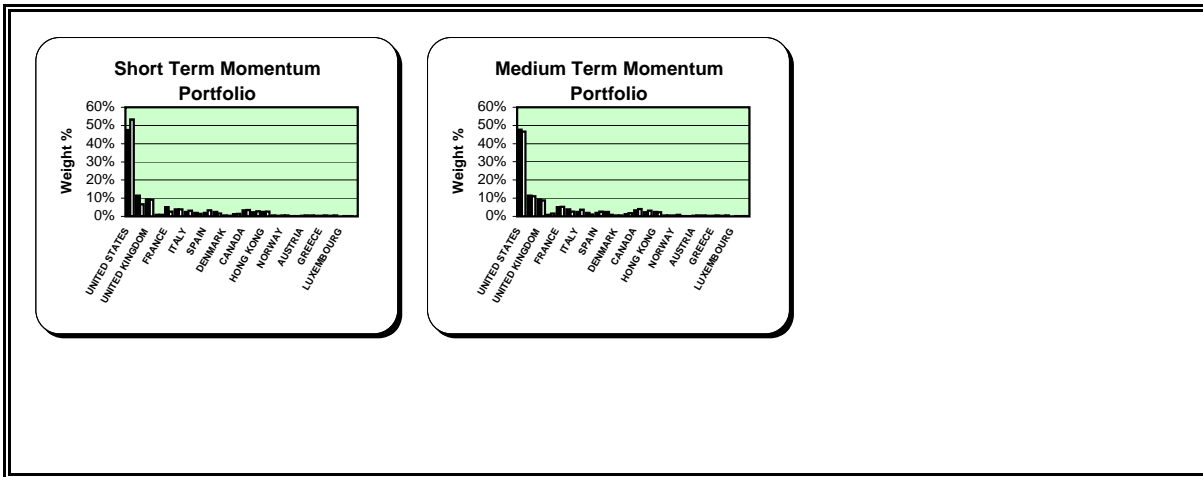
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Developed

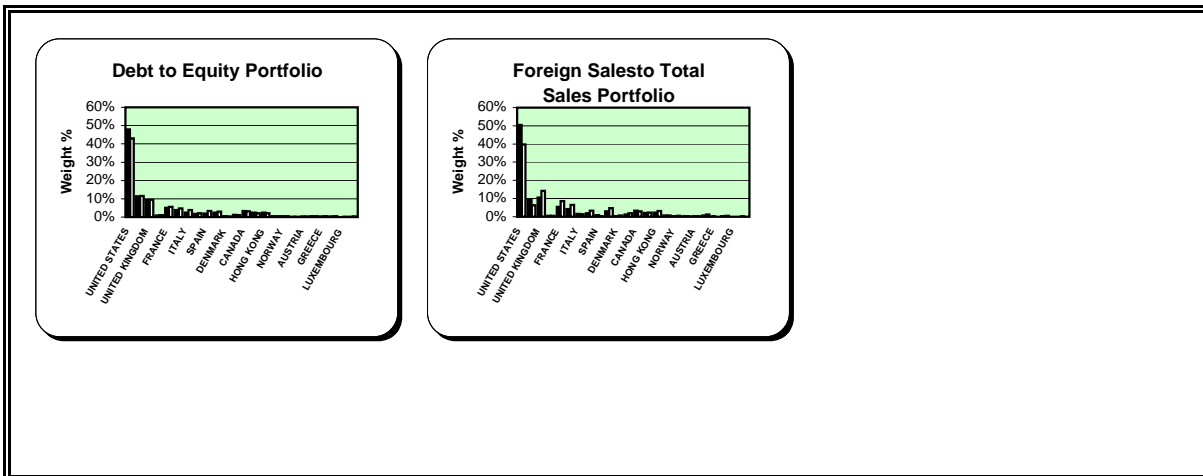
Size / Risk Criteria



Relative Performance Criteria



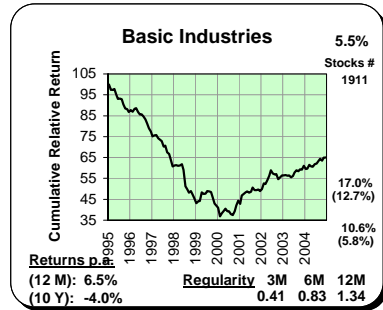
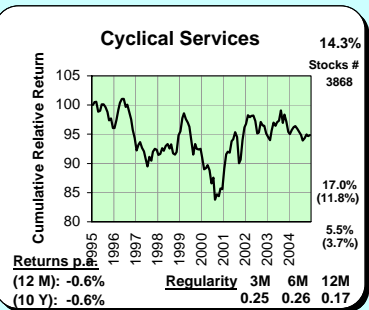
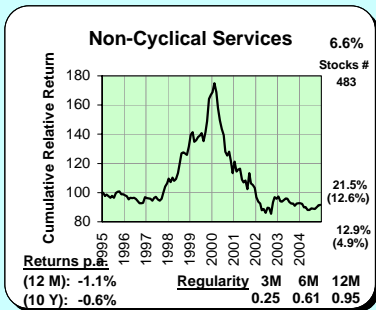
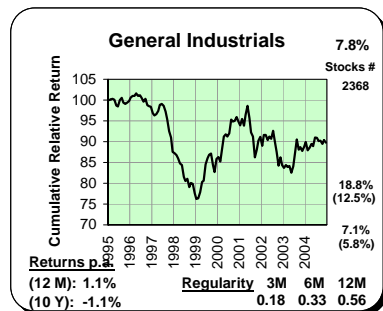
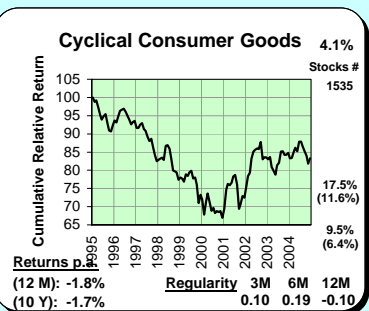
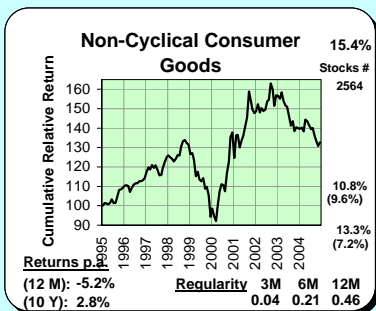
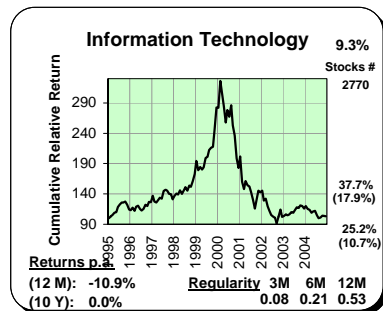
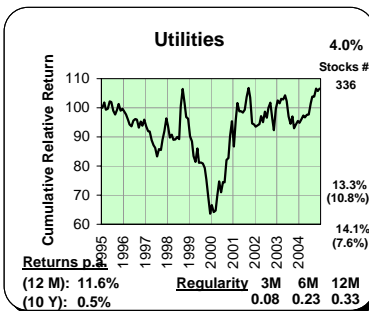
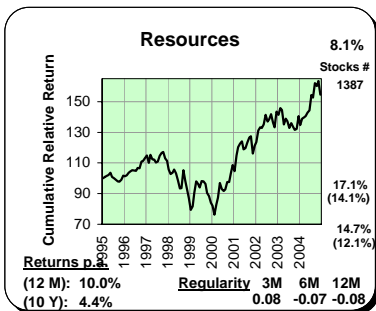
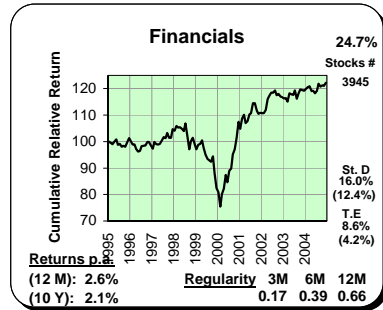
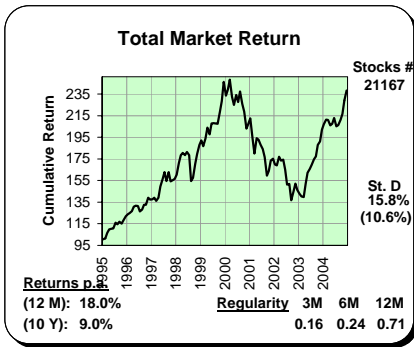
Other Criteria



Classification: FTSE

Developed

Market and Sector Returns



Classification: FTSE

Notes and Definitions

The Data

The data to support the **Global Style Manager** service encompasses:

Monthly pricing and fundamental data for 53,492 (30,840) securities in 53 global markets.

Securities for the database are selected according to marketability and the availability of information. The individual market analyses cover the following number of securities:

US [17,404; 8,162; 2,550]	Japan [4,158; 3,571; 1,350]	UK [3,959; 2,010; 1,000]	Belgium [560; 198; 75]
France [1,630; 843; 360]	Germany [1,666; 1,027; 260]	Italy [724; 355; 115]	Netherlands [363; 181; 100]
Ireland [122; 55; 50]	Spain [314; 150; 100]	Switzerland [876; 395; 100]	Denmark [585; 242; 100]
Norway [432; 175; 100]	Sweden [1,244; 488; 100]	Canada [2,240; 1,254; 350]	Australia [1,742; 1,297; 175]
Hong Kong [1,052; 894; 225]	Singapore [657; 535; 150]	South Africa [820; 341; 135]	

Data arranged as: [Total Universe of Securities Analysed over Ten Years; Universe of Currently Trading Securities; Number of Securities in Market Portfolio]

Regions are comprised of the same markets as the corresponding FTSE™ All-World™ Indices; security and market weights are, however, based on total market capitalizations of securities and not Free Float.

The Factors

The **Returns to** (see below) analysis is conducted using the following investment criteria or Factors:

VALUE CRITERIA

Book to Price	<p>The ratio of the company's Book Value (the sum of Shareholders' Equity plus accumulated Retained Earnings from the P & L Account) to its Share Price.</p> <p>This Factor has been one of the most successful measures of the intrinsic Value of company shares.</p>
Dividend Yield	<p>The annual Dividend Paid per Share divided by the Share Price.</p> <p>This Factor measures the Value of company shares according to the stream of dividend income resulting from share ownership.</p>
Earnings Yield	<p>Annual Earnings per Share divided by the Share Price.</p> <p>This Factor measures the worth of a company's shares according to the company's ability to support each share with after tax earnings.</p>
Cash Flow Yield	<p>Annual Cash Flow per Share divided by the Share Price.</p> <p>This Factor is related to the earnings yield but also includes other items, specifically: depreciation, amortizations, and provisions for deferred liabilities. It is intended to capture the cash availability of the company as a multiple of the share price, and offers a Value criteria based on the stream of accessible cash earnings.</p>
Sales to Price	<p>Net Sales per Share divided by the Share Price.</p> <p>This Factor measures the worth of a company's shares according to the annual sales volume supporting the company business. The item is considered by many analysts to be less susceptible to manipulation than other valuation criteria; it is, however, a less comprehensive measure of a company's range of activities.</p>
EBITDA to Price	<p>Earnings before Interest, Taxes, Depreciations and Amortizations, divided by the Share Price.</p> <p>This Factor assesses the worth of a company's shares according to the profitability of the company's operations, abstracting from taxes, any interest expenses on debt, depreciation, depletions and amortizations. Many analysts consider that this gives a good measure of a share's worth in terms of the company's genuine trading profitability.</p>

GROWTH CRITERIA

Return on Equity	<p>Net Income before Preferred Dividends divided by the Book Value of Shareholders' Common Equity.</p> <p>RoE measures the profitability of the operations of the company as a proportion of the total amount of equity in the company. Since RoE multiplied by the reinvestment rate (the proportion of earnings not paid as dividends but reinvested in the company) gives the warranted growth rate of a company, RoE is a very usual measure of a company's growth potential.</p>
Earnings Growth	<p>The average annual growth rate of Earnings over a trailing three years.</p> <p>Earnings Growth is, perhaps, the clearest of the Growth criteria. However, it is subject to the distortions of reporting conventions and manipulation and, particularly in some markets, only known after a considerable lag.</p>
Income to Sales	<p>The operating profit margin, annual Net Sales less Total Operating Expenses, divided by annual Net Sales.</p> <p>This measure attempts to assess the company's potential for profitable, sustained expansion or growth.</p>
Sales Growth	<p>The average annual growth rate of Net Sales per Share over a trailing three years.</p> <p>Although growth in sales per share might be only a narrow measure of a company's business growth, and may be subject to a number of distortions, it is less subject to differences in reporting conventions or manipulation than many other Balance Sheet or Profit and Loss items.</p>
I/B/E/S 12 M Earnings Growth	<p>I/B/E/S consensus forecast growth of Earnings over the next 12 months.</p> <p>The I/B/E/S 12 Month Forward is calculated on a pro-rata basis from the forecasts for each company's next 2 annual reporting periods.</p>
I/B/E/S FY1 Revisions	<p>I/B/E/S balance of Earnings forecast revisions for the next annual reporting period.</p> <p>Calculated as the difference between the upwards revisions minus the downwards revisions, expressed as a percentage of the number of estimates.</p>

SIZE & RISK CRITERIA

Size	<p>The top 80% of each market, by market capitalization.</p> <p>Small company securities are here understood to comprise the bottom 20%, by value, of each market.</p>
Market Beta	<p>The "slope coefficient", (β), from the simple regression:</p> $\text{Security Monthly Return} = \alpha + \beta * \text{Market Monthly Return} + \text{Random Error}$ <p>The regression is carried out over rolling 36 month periods; where sufficient information is not available, $\beta=1$ is assumed.</p>

PERFORMANCE RECORD CRITERIA

Short Term Momentum	<p>Short Term Momentum is calculated using a 6 month "memory" of monthly returns. The past period returns are weighted using a "decay ratio" of 2/3, per month.</p>
Medium Term Momentum	<p>Medium Term Momentum is simply the 12 month percentage change in prices.</p>

The Short Term and Medium Term Momentum factors measure the degree of simple price performance trending. They are useful in recognizing the trading characteristics of specific markets and in noticing occasional changing patterns through the market cycle.

OTHER CRITERIA

Debt to Equity Total Debt as a percentage of total Common Equity.

The Debt to Equity ratio measures leverage, or gearing, a particular feature of share price risk - the higher the ratio the more changes in a company's fortune might be reflected in changes in the payment of dividends. The influence of this criterion is, however, especially subject to a number of particular specific considerations (e.g. sector differences, interest rate sensitivity). Consequently it is considered separately from the other "risk" criteria.

Foreign Sales / Total Sales International Sales as a percentage of Net Sales

Although information is occasionally rather sparse, where the data are available, and reliable, this is frequently an important investment criterion. It is undoubtedly linked to movements in the exchange rate and company size, and has different interpretations in different industrial sectors.

"Return to"

The **Return to** series represent the cumulative market-relative total returns (including dividend income) that an investor would achieve using the following investment strategy:

- Portfolios are constructed from the top half of the market, by market capitalization, of securities exhibiting the highest scores with respect to the criteria under review.
- Portfolios are constructed using market weights to establish the portfolio proportions.
- Dealing costs are not included; however, the extended six month rebalancing interval limits the effect of transactions charges and market impact.

The plots and statistics are constructed by compounding the monthly returns for each factor and comparing the "running totals" against the compound cumulative return for the market as a whole. The items plotted are the ratios, in percentage terms, of the cumulative returns to the various strategies, to the cumulative return to the market.

"Identity"

The **Identity** statistic measures the likelihood that the performance of a particular **Returns to** Factor return series can not be explained simply by chance. This measure addresses the concern that an investment Style could very easily be defined according to nonsense criteria such as, say, the colour of the finance director's nephew's car. A true investment Style must be distinguishable from such nonsense criteria.

The **Identity** statistic offers a measure to determine the distinctiveness of each **Returns to** Factor return series and, consequently, to assess an individual Factor's relevance as an investment Style criteria.

The statistic is defined from a Monte Carlo simulation as follows:

- We calculate the root mean squared error comparing the absolute (not market-relative!) three month total returns of the portfolio of securities from the top half of the market, ranked according to the Factor criteria under review (see **Returns to**, above), and the portfolio of all securities in the market,
- We calculate the root mean squared errors comparing the absolute (not market-relative!) total returns of randomly selected (from the market) portfolios of securities, with market capitalization of half the market, constructed according to market capitalization (in a manner analogous to the process described in **Returns to**, above), and the portfolio of all securities in the market,
- We repeat the random portfolio construction process 100 times for each market and, for each Factor, determine the proportion of calculated root mean squared errors (from the randomization process) which are less than the root mean squared error relating to the Factor return history.

A number of "100%" would indicate that all of the randomly selected portfolios resulted in root mean squared errors below that relating to the portfolio constructed with reference to the Factor criteria under review. This would indicate that the systematic performance characteristics of the portfolio constructed with reference to that Factor can be regarded as distinct and very significant.

Nonsense criteria, on the other hand, score low on this measure and can quickly be recognized as irrelevant as investment Styles.

This statistic was developed by Style Investment Research in accordance with research previously published by Carlo Capaul, Ian Rowley and Bill Sharpe (International Value and Growth Stock Returns, Financial Analysts Journal, Jan-Feb 1993), which used the same technique to establish the relevance of Style factors in international equity markets.

"Consistency", "T/O" The average annual turnover of the Factor portfolio, measured over the most recent three year period.

The T/O statistic displays the turnover in percent of total portfolio value terms, at an annualized rate and, following industry conventions, counts only one side of a sale and purchase set of transactions. For example, if 12% of the value of a portfolio were traded during a January rebalance (a 12% share sale and a subsequent 12% share purchase), and 15% of the value of the portfolio were traded in July, then the annual turnover would be quoted as 27%.

"Attribution" The average of the absolute values of the T-Statistics of the estimate of the β in the cross-sectional regressions:

$$\text{Security Three Month Return} = \alpha + \beta * \text{Security Factor Exposure} + \text{Random Error.}$$

The statistics quoted are the averages, over 10 years, of the absolute values of the T-Statistics from the quarterly (non-overlapping) regressions. A figure over 2 is very significant, and figures between 1.5 and 2 are also very worthy of serious consideration.

"Regularity" The *regularity* statistics measure the regularity, or smoothness, of the deviations of each particular return series from their longer-term trends.

- The statistics measure the likelihood that deviations from the long-term trend can persist over the short term ("S-T", three months) or over the medium term ("M-T", six months).
- Positive figures indicate a positive likelihood that short or medium-term trends can deviate from the longer-term trend. The larger the number the more likely it is that such deviations might occur and persist with some regularity.
- Negative figures indicate that trends can only deviate from the long term trend for short periods. The more negative the number, the more likely it is that any deviation will quickly be corrected and that the series will soon return to its regular long-term trend.

The Regularity statistics are simply defined as $VR(q)-1$, where $VR(q) \equiv \frac{Var[r_i(q)]}{qVar[r_i]}$

and $r_i(k)$ is the series of multiple period compound return; i.e. $r_i(2) \equiv r_t + r_{t-1}$.

Following Campbell, Low and MacKinlay (The Econometrics of Financial Markets, 1997), it can be shown that, $VR(q)$ is a linear combination of autocorrelation statistics and that, for a sample of $nq+1$ observations and a very standard formulation of an estimator of $VR(q)$, $\overline{VR(q)}$,

$\sqrt{nq}(\overline{VR(q)} - 1) / \sqrt{2(q-1)}$ is normally distributed with zero mean and standard deviation of 1.

Consequently, for our Regularity statistics, the confidence ranges can be calculated as:

	1 SD	2 SD
Reg(3)	0.183	0.365
Reg(6)	0.289	0.577
Reg(12)	0.428	0.856

“St. D”

The annualized Standard Deviation of the absolute (not relative) monthly returns of the relevant series, measured over the most recent 5 year period.

This statistic provides a measure of the volatility of each of the series examined. It is useful in offering some measure of the risk of each of the investment strategies implied by the Factor portfolios under review.

“T.E.”

Tracking Error, i.e., the annualized Standard Deviation of the market-relative (not absolute) monthly returns of the relevant series measured over the most recent 5 year period.

The statistic provides a measure of the market-relative volatility of each series. It is useful in offering some measure of the risk of each of the investment strategies implied by the Factor portfolios under review, assessed relative to a market-neutral strategy.

“Sector Adjusted”

A company's score for any particular factor can be measured either in absolute terms (such as “the Book to Price of ABC Limited is 0.70”) or in relative, **sector adjusted**, terms (such as, ABC Limited is a chemical company and the Book to Price of the industrial sector which includes chemical companies is 0.50. Therefore, the **sector adjusted** Book to Price score of ABC Limited is 1.4).

The **sector adjusted** analysis reviews all security factor scores relative to the relevant sector average for each security. These relative assessments reduce the influence of sector distortions on the appraisal of these influences.